Figure 1

A. Manipulator 1 (glass pipette) and Manipulator 2 (wire electrodes) are used to position the Stereotaxic chamber.

B. Microscopic images showing the dorsal (Dp) and ventral (Tel) views with measurements in micrometers (μm).

C. Histological section showing the olfactory bulb (OB) and other brain structures with measurements.

D. Schematic diagram illustrating EEP (External Electrode Placement) in the Tel and IEP (Internal Electrode Placement) in the Dp.
Stereotactic injection and electroporation. (A) Left: apparatus for injection and electroporation. Right: Arrangement of wire electrodes and glass micropipette for targeted electroporation with internal electrodes (IEP) in the stereotactic chamber. Positions of electrodes and micropipette relative to Dp are shown schematically in (D).

(B) Top: hematoxylin and eosin (H&E) staining of a horizontal brain section through Dp. Somata are stained blue. Approximate positions of injection pipette and wire electrodes for targeted IEP in Dp are indicated. Bottom: sagittal section. D, dorsal; V, ventral; A, anterior; P, posterior. (C) Dorsal view of the skull over the telencephalon (Tel) and olfactory bulb (OB). The bone over the left olfactory bulb has been removed. Positions of the glass pipette and wire electrodes for targeted IEP in Dp are indicated. A virtual line between the lateral edge of the telencephalon and the midline (white) was used to determine the position of the injection pipette along the medial-lateral axis (Methods).

(D) Approximate positions of electrodes (black) and injection sites (orange) for EEP in the dorsal telencephalon (left) and targeted IEP in Dp (right). Plasmid was injected and electroporated sequentially at three different depths (gray lines).

(E) Needle electrodes for “external-electrode-electroporation” (EEP; left) and wire electrodes for “internal-electrode-electroporation” (IEP; right). Insets show electrical pulse protocols.

Images in this article